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JAPANESE PATENT OFFICE

# PATENT ABSTRACTS OF JAPAN

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(21) Application number: 05232055

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(71) Applicant: RES DEV CORP OF JAPAN

(72) Inventor: ICHINOSE NOBUYUKI

## (54) ORGANIC SILANE MODIFIED OXIDE AND MODIFIED SURFACE LIGHT PATTERNING OXIDE

### (57) Abstract:

**PURPOSE:** To enable the easy reforming and patterning of the organic molecule surface-modified solid surface and enable the specified pattern arrangement of various polymer molecules by disposing an acyl alkyl sulfide organic group substituted silane monomolecular layer on the surface.

**CONSTITUTION:** An acyl alkyl sulfide organic group substituted silane monomolecular layer is disposed on

the surface to obtain a surface modified oxide, and the obtained surface modified oxide is irradiated by light through a mask pattern to obtain a modified surface light patterning oxide with an acyl group cleaved by light on the irradiated surface and amino polymer molecules fixed to the non-irradiated part. With this irradiation, the acyl alkyl group is cleaved by light at the irradiated part so as to form a sulfur oxide in an oxygen atmosphere, for instance, by the reaction of a formed radical. At the non-irradiated part, on the other hand, organic molecules such as protein, peptide, an amino polymer are fixed onto the pattern of the acyl alkyl group.

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Derwent Title: **Organo:silane modified oxide, useful for bio-sensor, super-thin membrane optical resists - is prepd. by acyl:alkylating mercapto gp.-subst. silane mono:layer on solid oxide surface**

Original Title: ☒ JP07084372A2: ORGANIC SILANE MODIFIED OXIDE AND MODIFIED SURFACE LIGHT PATTERNING OXIDE

Assignee: **SHINGIJUTSU JIGYODAN** Standard company  
Other publications from [SHINGIJUTSU JIGYODAN \(SHKJ\)](#)...

Inventor: **None**

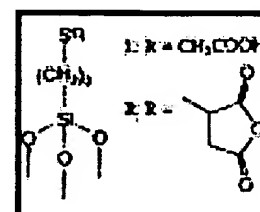
Accession/ **1995-164466 / 199522**

Update:

IPC Code: **G03F 7/075 ;**

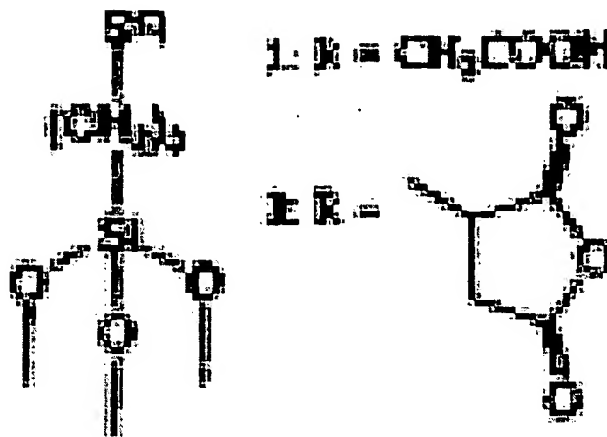
Derwent Classes: **B04; E11; G06; J04; L03; P84; S03;**

Manual Codes: **B05-B01B**(Si organic) , **E05-E**(Organic compound containing silicon [general]) , **E05-E01**(Heterocyclic or aromatic compound with Si-C bond) , **E31-D04**(Oxide) , **G06-E02** (Special photographic techniques - masking) , **G06-E04** (Special photographic techniques - coating) , **G06-F** (Radiation sensitive systems [others]) , **G06-G18**(Image formation by exposure to ionising radiation, light etc.) , **J04-B01B**(Analytical methods/equipment - specific reactions and reagents) , **L03-H**(Applications [unclassified]) , **S03-E03C** (Containers, electrodes, membranes, partitions) , **S03-E14H** (Investigation methods for biological material)



Derwent Abstract: ( JP07084372A) Organic silane modified oxide, forming acyl alkylsulphide organic gp. subst. silane monolayer on a surface mfd. by acylalkylating reacting after forming mercapto gp.-subst. silane monolayer on a solid oxide surface and producing acylalkylsulphide organic gp. subst. silane monolayer.  
Also claimed is modified surface, light-patterning oxide which is an oxide obtd. by irradiating organic silane modified oxide with light via a mask pattern. Acylalkyl gp. is photocleaved on the irradiated surface.  
**Advantage** - Simple patterning is possible by normal near UV light irradiation. Also pattern positioning of protein is possible.  
In an example, 3-phenyldisulphide propylsilane monolayer modified silica base was irradiated by KrF excimer laser via a photo mask and it was processed by polyethylenimine soln..

Images:



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Family: **PDF Patent** **Pub. Date** **Derwent Update** **Pages** **Language** **IPC Code**  
☒ **JP07084372A** \* 1995-03-31 199522 3 English G03F 7/075  
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Priority Number:

Application Number	Filed	Original Title
<u>JP1993000232055</u>	1993-09-17	ORGANIC SILANE MODIFIED OXIDE AND MODIFIED SURFACE LIGHT PATTERNING OXIDE

Chemical Indexing Codes:

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Specific Compound Numbers:

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Related Accessions:

Accession Number	Type	Derwent Update	Derwent Title
C1995-075989	C		
N1995-128985	N		
2 items found			

Title Terms:

ORGANO SILANE MODIFIED OXIDE USEFUL BIO SENSE SUPER THIN MEMBRANE OPTICAL RESIST PREPARATION ACYL ALKYLATED MERCAPTO GROUP SUBSTITUTE SILANE MONO LAYER SOLID OXIDE SURFACE

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